

C L A I M S

1. A shock-absorbing hydraulic system for cushioning a structural part of an all-terrain load-carrying vehicle, said hydraulic system including:
- a first, double-acting, hydraulic front cylinder (1) and a first, double-acting, hydraulic rear cylinder (2), each exhibiting a first end (5) and a second end (6), said first hydraulic cylinders (1, 2) being connected in series by means of a first, series-connecting hydraulic conduit (11) and being arranged on one side of the longitudinal axis of the load-carrying vehicle in a succession in the longitudinal direction of the load-carrying vehicle; and
 - a second, double-acting, hydraulic front cylinder (3) and a second, double-acting, hydraulic rear cylinder (4), each exhibiting a first end (5) and a second end (6), said second hydraulic cylinders (3, 4) being connected in series by means of a second, series-connecting hydraulic conduit (14) and being arranged on the other side of the longitudinal axis of the load-carrying vehicle in a succession in the longitudinal direction of the load-carrying vehicle,
- said hydraulic cylinders (1, 2, 3, 4) being arranged between the structural part and the chassis of the load-carrying vehicle, **characterized in** that the first end (5) of the first, hydraulic front cylinder (1) is connected to the second end (6) of the second, hydraulic rear cylinder (4) by means of a first, diagonal hydraulic conduit (17), and in that the second end (6) of the first, hydraulic rear cylinder (2) is connected to the first end (5) of the second, hydraulic front cylinder (3) by means of a second diagonal hydraulic conduit (18).

2. Hydraulic system according to claim 1, **characterized in** that one of the first hydraulic cylinders (1 or 2) is connected to at least a first storage tank (12), and in that one of the second hydraulic cylinders (3 or 4) is
5 connected to at least a second storage tank (15).

3. Hydraulic system according to claim 1 or 2, **characterized in** that each of the first and second, diagonal hydraulic conduits (17, 18) includes a
10 non-return throttle valve (21, 22) which restrains the flow of hydraulic fluid from the first, hydraulic rear cylinder (2) to the second, hydraulic front cylinder (3) and from the second, hydraulic rear cylinder (4) to the first, hydraulic front cylinder (1), respectively.

15 4. Hydraulic system according to any one of claims 1-3, **characterized in** that a third storage tank (23) is connected to the first, series-connecting hydraulic conduit (11), and in that a fourth storage tank (25) is
20 connected to the second, series-connecting hydraulic conduit (14).

5. Hydraulic system according to any one of claims 1-4, **characterized in** that said structural part is the
25 operator's cabin of the load-carrying vehicle.

6. Hydraulic system according to any one of claims 1-4, **characterized in** that said structural part is the load-carrying member of the load-carrying vehicle.

30 7. An all-terrain load-carrying vehicle including a shock-absorbing hydraulic system for cushioning a structural part of the load-carrying vehicle, said hydraulic system including:

- a first, double-acting, hydraulic front cylinder (1) and a first, double-acting, hydraulic rear cylinder (2), each exhibiting a first end (5) and a second end (6), said first hydraulic cylinders (1, 2) being
5 connected in series by means of a first, series-connecting hydraulic conduit (11) and being arranged on one side of the longitudinal axis of the load-carrying vehicle in a succession in the longitudinal direction of the load-carrying vehicle;
10 and
- a second, double-acting, hydraulic front cylinder (3) and a second, double-acting, hydraulic rear cylinder (4), each exhibiting a first end (5) and a second end (6), said second hydraulic cylinders (3, 4) being
15 connected in series by means of a second, series-connecting hydraulic conduit (14) and being arranged on the other side of the longitudinal axis of the load-carrying vehicle in a succession in the longitudinal direction of the load-carrying vehicle,
20 said hydraulic cylinders (1, 2, 3, 4) being arranged between the structural part and the chassis of the load-carrying vehicle, **characterized in** that the first end (5) of the first, hydraulic front cylinder (1) is connected to the second end (6) of the second, hydraulic
25 rear cylinder (4) by means of a first, diagonal hydraulic conduit (17), and in that the second end (6) of the first, hydraulic rear cylinder (2) is connected to the first end (5) of the second, hydraulic front cylinder (3) by means of a second, diagonal hydraulic conduit (18).

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8. Load-carrying vehicle according to claim 7, **characterized in** that one of the first hydraulic cylinders (1 or 2) is connected to at least a first storage tank (12), and in that one of the second

hydraulic cylinders (3 or 4) is connected to at least a second storage tank (15).

9. Load-carrying vehicle according to claim 7 or 8,
5 **characterized in** that each of the first and second, diagonal hydraulic conduits (17, 18) includes a non-return throttle valve (21, 22) which restrains the flow of hydraulic fluid from the first, hydraulic rear cylinder (2) to the second, hydraulic front cylinder (3)
10 and from the second, hydraulic rear cylinder (4) to the first, hydraulic front cylinder (1), respectively.

10. Load-carrying vehicle according to any one of claims 7-9, **characterized in** that a third storage tank (23) is
15 connected to the first, series-connecting hydraulic conduit (11), and in that a fourth storage tank (25) is connected to the second, series-connecting hydraulic conduit (14).

20 11. Load-carrying vehicle according to any one of claims 7-10, **characterized in** that said structural part is the operator's cabin of the load-carrying vehicle.

25 12. Load-carrying vehicle according to any one of claims 7-10, **characterized in** that said structural part is the load-carrying member of the load-carrying vehicle.

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